UNITED STATES GOLF ASSOCIATION
GREEN SECTION

Mid-Continent Turfletter

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THOUGHTS ON RENOVATION PROCEDURES

Much has been written about turfgrass renovation. Renovation varies a great deal in its intensity. Sometimes it signifies a rather small departure from normal management practice. On the other hand renovation may be so drastic as to approach reconstruction.

Naturally, the more drastic the renovation program, the more costly it will be. Furthermore, the golf course will be out of play for a longer period when greater changes are to be made.

Renovation seeks to improve turf. Its undertaking implies that something is wrong and that turf is unsatisfactory. The quick way of repair is to re-establish turf with the least amount of effort and the least interference with play. Reseeding or resodding may provide an immediate and apparently satisfactory solution. The test comes, however, when the next prolonged period of unfavorable weather occurs.

Renovation should always be preceded by a thorough analysis of the cause of poor turf. Unless the causes of poor turf are discovered, and corrected, renovation has little chance of providing permanent improvement.

Putting Greens

A. R. Twombly reports in the Bulletin of the New York State Turf Association that he considers the major causes of unsatisfactory turf on putting greens to be poor drainage and soil compaction. Mr. Twombly lists several other causes of poor turf, such as sand and organic matter layers, matting, impaired air circulation, tree root competition, grass unsuited to the region, and injuries from diseases, insects, chemical burns, scald, algae, winter-kill and desiccation.

The injuries listed above may be overcome by reseeding or resodding. The superintendent must then try to insure that these injurious agents do not have a second chance. An unsuitable grass may be replaced in a relatively short time under most circumstances. Tree roots may be pruned and air circulation may be improved without taking a green out of play. A moderate amount of mat may be removed by severe raking, brushing or vertical mowing in early spring before very heavy play begins.

The correction of layering, compaction, and poor drainage are far more serious matters. All these troubles can be helped by cultivation as a part of maintenance. If they have progressed to the point where renovation is necessary, then correction will require a considerable effort and it is quite likely that there will be some interference with play.

Superintendents will recognize that these causes of trouble all exist in various degrees of seriousness. This fact creates a need for accurate evaluation of the problem and an outline of the steps needed for correction.

Mr. Twombly lists the following points for consideration in the formulation of a plan of attack: Cost, and budget limitations; available facilities; proper timing; player inconvenience; does the seriousness of the problem merit complete reconstruction?

The carrying out of the renovation program will vary with each case and no definite procedures may be recommended. A check list of conditions should include:

Adequate drainage - both surface and subsurface
Uniform soil profile - no layering
A minimum of mat and thatch
Adequate amounts of phosphorus and potash in the soil
Neutral or slightly acid soil reaction - pH near 6.5
Sufficient insecticide residual to guard against beetle grubs
Tree roots eliminated from soil beneath greens
Good air circulation
An adapted strain of grass
Freedom from weeds

When these conditions have been provided, the program becomes one of normal management. Management must be right or renovation again becomes necessary.

Fairway Renovation

Throughout the Midwest the following steps of renovation procedure have found wide acceptance among superintendents renovating fairway turf of cool season grasses:

1. As long as possible prior to actual renovation, the area to be worked should receive adequate fertilization; and lime if necessary. As a good rule of thumb, fairway turf should receive at least 100 to 120 pounds of actual nitrogen per acre every year and one-half this amount of phosphoric acid and potash. Fertilizers usually are applied in three or four applications yearly. Soil reaction should be between pH 6.0 and 7.0.

2. Just prior to seeding in mid to late August, apply sodium arsenite at 8 to 10 pounds per acre. This is a heavy rate but if soil moisture is adequate, it should not permanently damage whatever bluegrass, fescue, and bentgrass is present.

3. Many superintendents broadcast seed following vigorous aerification, then drag-mat. However, it appears that a superior "catch" results if seed is actually cut into the soil with a grain drill. Drilling should be done following a cross-patch pattern; perhaps seeding in as many as four directions.

   Regardless of the method used, seeding rates should be 70 to 90 pounds per acre, the first sowing. It may be advisable to make 2 or 3 extra passes in front on greens and in mower turn areas. It is nearly always necessary to reseed in certain "poorer" areas for a number of years.

   Though there is some diversity of opinion with regard to seed mixtures, the following are representative:

   A. 65% Kentucky (or Merion) bluegrass
      30% Creeping red or Chewings fescue
       5% Highland or Astoria bentgrass

   B. 65% Highland bentgrass
      30% Astoria bentgrass
       5% Seaside bentgrass

4. Keep newly seeded areas moist until seedlings have developed to mowing height. At this time reduce water and follow a program of infrequent but deep watering.

5. Start mowing bentgrass fairways at 3/4 to 1/2 inch and bluegrass-fescue at 1-1/4 inches. It seems that it is a good idea to cut these grasses at this height, respectively, with no variation, if at all possible.

6. Aerification is beneficial unless the fairway is located on sandy well drained soil. Check renovated areas closely and cultivate as often as necessary.

7. If adequate nutrient levels are not maintained (refer to heading No.1) it is likely that the entire renovation program will be a failure; at least results will be discouraging. This is of utmost importance.

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TURFGRASS CONFERENCES

Central Plains Turfgrass Conference - Manhattan, Kansas - October 15-16-17

New Mexico Turfgrass Conference - State College, N. M. - October 23-24

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